



# OSCILLATOR

Volume 25 Number 7

## OSCAR 7 LIVES AGAIN

Nearly twenty-eight years ago, AMSAT launched AMSAT-OSCAR 7 aboard a Delta 2310 launcher from Vandenberg Air Force Base, in Lompoc, California. AO-7 was launched piggyback with NOAA 4 and a Spanish INTASAT on November 15, 1974.

This was the second Phase II satellite. The AO-7 orbit was 1444 x 1459 km. and inclination 101.7 degrees. It carried a circularly polarized canted turnstile VHF/UHF antenna system and HF dipole and a very sensitive receiver. AO-7 was similar to AO-6 and was built by a multi-national team (German, Canadian, United States, and Australian). It was commissioned by AMSAT-NA.

Ao-7 carries Mode A (145.850-950 MHz uplink and 29.400-500 MHz downlink) and a Mode B (432.180-120 MHz uplink and 145.920-980

See OSCAR, Page 2

## Next Meeting — Wednesday, July 10th at 7 PM

Its JULY its time to do our planning for Fall operating. One of the best things about OTVARC is the shared experience of amateur radio. Why not invite another ham to come to the meeting as your guest? JD Fort will present a video about operating! Join us at 6:00 pm and enjoy the no-host Elks' Buffet line.



## From the Bridge H. D. Landers, WAØBRU

One-step forward two steps back. Not dance steps but the way it has felt during June. SEAPAC is done; the rose parade is done; Field Day will be history by the time you read this.

This is our big stop on this year's cruise. There are a lot of events still to be completed, and each chairperson doesn't see these as a small deal.

What does an event need to work? One: meeting(s) with the organization sponsoring the event. Two: coordinate how many hams are needed and where they will be needed. Three: recruit volunteers from the club and or community.

See BRIDGE, page 3

**July 2002**

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## **CQ WORLD-WIDE VHF CONTEST**

**July 20 - 21****11:00 AM  
Saturday  
through  
2:00 PM Sunday**

MHz uplink and 145.920-980 MHz downlink (inverted)) linear transponders and 29.500 and 145.700 MHz beacons. The 2304.1 MHz was never turned on.

Four radio masts mounted at 90 degree intervals on the base and two experimental repeater systems provided store-and-forward for morse and teletype messages (Codestore) as it orbited around the world. The Mode-B transponder was designed and build by Karl Meinzer, DJ4ZC and Werner Haas, DJ5KQ. The Mode-B transponder was the first using "HELAPS" (High Efficient Linear Amplification by Parametric Synthesis) technology was developed by Dr. Karl Meinzer as part of his Ph.D.

## **27 year old OSCAR 7 still alive,** from AMSAT News Service

First heard by Pat Gowan G3IOR, Oscar 7 seems to have made a comeback! Pat copied and downloaded CW telemetry. This information was confirmed by several AMSAT members as coming from OSCAR-7. This satellite was launched on November 15 1974, giving it a life of 27 and one half years. The receive frequency was 145.9738.

Jan King W3GEY commented:

"G3IOR's telemetry frame is interesting. Apparently he did hear the AO-7 Mode B beacon. I got out my December 1974 and looked up the telemetry equations for the Morse Code Telemetry Encoder and what I found is in the attached (see AMSAT Website). I'm blown away. Most of this stuff makes pretty good sense. In particular, the temperatures make sense and I would have guessed that they would be the most sold IF the reference voltage held (which it did). Interpreting some of this for those who may not understand or don't remember, the telemetry says the spacecraft was in Mode B; all the other beacons and Mode A were off. It is possible that the thing had just turned on because the old 24 hour timer just reset it to Mode B. The...thing may think it is still on an every other day cycle.

The power output of the transponder is 1.16 watts which may mean it is transmitting white noise plus beacon power. That seems about right, but a little low as I recall. The instrumentation switching regulator is in the middle of it's normal range and seems to be working fine. The internal temperatures are around 15 deg. C; the external temperatures are around 5 C and the transponder PA temp, which should be the warmest - IS - it's 35.1 deg. C. The array current value is bust. I think maybe it always was. The array current calibrations looks off. The array currents are in the normal range but all four show current. This can't be. Only two at a time should show current. Without a battery on line, this is entirely possible. The big find is that the battery voltage telemetry shows a voltage of 13.9 volts. Normal is 13.6 to 15.1 volts. So that would suggest the battery was normal BUT, the 1/2 battery voltage is measuring only 5.8 volts. That can't be. This imbalance probably means that the 5.8 volts is the correct value for the lower half of the battery (which is a low value for that half, if the cells were normal - they are probably not) and there is a break somewhere in the upper 1/2 of the battery string. My guess is the indicated voltage is really what the BCR is putting out with only the spacecraft load as a real load and the battery string has an effective break (or a pretty high resistance) somewhere in the upper half. So, this old war horse of a spacecraft seems to have come back from the dead if only for a few moments. It is telling us, that even in a 1460 km high orbit a cheap spacecraft built by a bunch of hams, without very many high rel parts and without designing for a radiation dose like this, can last for 27+ years in space as far as a majority of it's electronics is concerned.

## **Two way experimental communication at 480 kHz in the US, ARRL Letter**

A group of US amateurs have obtained an FCC experimental license to operate on several spot frequencies between 435 and 500 kHz. It has not taken them long to set up their first QSO. Dennis Du Vall W7QHO reports that Hank Brown, WC2XSR/6DJX and Dennis, C2XSR/7QHO achieved two way CW communication on 480 kHz, 0615 UCT, 9 Dec 2001. Hank was using an ART-13 (100 watts input) and Dennis was on a GP-7 (100 watts out). Hank is in Lancaster, CA, and Dennis is in Glendale, a distance of approximately 50 miles.

About 3 years ago, Ken Gordon W7EKB keng@moscow.com and some 35 other amateurs got together to explore the possibility of obtaining an experimental license to operate in the frequency range between 435 and 515 kHz, a band once used for public safety, but recently vacated in the US.

They decided to seek approval based on a need for experimentation in below noise level communications, and to assess the band for reliable medium range emergency communications.

The group applied to the FCC and have recently been granted a five year experimental license to operate on five frequencies - 440, 470, 480, 495 and on 166.5 kHz. The license allows for participation from anywhere in the US, and names and stations can be added to the current approved list by notifying the FCC. Transmitter power is limited to 400 watts, and antenna radiated output is limited to 200 watts eirp. There are no constraints on radiated mode, as long as transmission bandwidth is less than 6 kHz.

## **BRIDGE**, from page 1

Four: obtain supplies, maps, instructions, rosters, equipment, etc. Training operators may need to do their job. Five: get equipment in place and operational for the event. Six: Open the event and check in volunteers. Check that everyone has the necessary supplies for their station location. Seven: Coordinate information between sponsors, volunteer operations, EMS and law enforcement as per event plan. Eight: Keep records; logs, operators list, notes on requests from EMS and law enforcement. Nine: Debrief or wrap up the event and report for the sponsor. Ten: (not always done) notes on what the coordinator of the event needs to do to prepare for the event next time. This is very helpful if some one else steps up to take over next year. Finally, thank the volunteers who worked the event. They gave their time and expertise.

There are many variations on these ten items. A successful event will follow this rough guideline, though a large event like SEAPAC will have a committee and each member will do their piece. Smaller events like a bike ride or walk-a-thon will have one person working on communications part of the event.

Many of us burn out because we try to help in every event. Every weekend there is something going on. If more people would get involved we could participate in a couple of events each year and even try different ones each year. Once again get involved and help in an event. They can be fun. Participants such as riders or walkers will give you thanks for helping. The sponsors and over services will see the valuable resource of Ham Radio. Public Service is a very important part of the hobby. 73, and enjoy the summer.

Harold WAØBRU



## As a matter of security, by Neil WA6KLA

Since 9/11...we all need to participate in our own security with a little more care. How many of us think nothing of announcing to our friends that we are leaving town ... going where ... and for how long? Sure, you can believe we thoroughly trust our friends on ham radio. But how many of you realize anyone (including your friendly burglar) can buy a radio frequency scanner and listen for your announcement.

The smart burglar can look you up on the Internet ... and easily locate your address. You wish to believe the burglar isn't that smart? He won't know where on the Internet to look? You really want to take that chance?

Click on <http://www.qrz.com/detail/wa6kla> ... or insert your own ham call here. My listing includes my mailing address - a PO Box number.

The radio frequencies we hold so dear to ourselves aren't secure... anyone can listen to them. Anyone with enough patience will learn all he wants to just by listening to our frequencies.

How many ham radio operators think nothing of giving out their home addresses ... and/or telephone **numbers** on the non secure radio frequencies?

Give it some serious thought the next time you are thinking about leaving to go anywhere ...

## Int'l Telecommunications Union Phonetic Alphabet

Word list	E--Echo	K--Kilo	Q--Quebec	W--Whiskey
A--Alfa	F--Foxtrot	L--Lima	R--Romeo	X--X-ray
B--Bravo	G--Golf	M--Mike	S--Sierra	Y--Yankee
C--Charlie	H--Hotel	N--November	T--Tango	Z--Zulu
D--Delta	I--India	O--Oscar	U--Uniform	
	J--Juliett	P--Papa	V--Victor	

## CQ VHF RE-APPEARS, by Everett W6ABM

A few years ago when the amateur radio market place took a nose-dive, CQ Magazine merged their VHF Magazine into CQ in order to save the features it carried. It didn't quite work. Much of the special feel of VHF died with the merger.

Now, with the Spring 2002 issue, CQ has re-birthed VHF as CQ VHF, a quarterly. This first outing for the new journal is a well done eighty-four page presentation. Dick Ross, K2MGA, publisher, has selected Joe, N6CL to serve as editor. His work is cut out for him, but the first issue suggests he will succeed.

The new journal is not a copy of the old. It has a new philosophy and carries deeper content and new writers. Take a look. You won't be disappointed.

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## LUNCH BUNCH

The July Lunch Bunch will be Saturday July 27<sup>th</sup> at 1:30 PM at The Peppermill Restaurant 17455 SW Farmington Rd, Aloha, OR 97007.

All members, non-members, Family, Friends, Hams from other clubs are welcome to participate.

If you haven't tried out this social occasion for club members and friends, you're missing out. Don't forget to sign the "reminder" call sheet at the club meeting. Julie KD7GQW (503-646-1546 or kd7gqw@aol.com) would be glad to answer your questions.

Hope to see everyone there.

## TRAVELERS'

The next campout will be July's campout is at Skamokawa County Park and features the annual BBQ. It will be July 19-21, but many will come mid-week. Come join the fun and camaraderie.

Wagonmasters are Mary and Roger Noyes. Call them at 503.292.3261 right away to assure a spot for you.

You don't need an RV to enjoy a Travelers' event. This one is at a location alongside the Columbia River, at a bend in the river.

## "Blue" Drawing

The "Blue" Drawing was drawn on Saturday evening at Field Day. The winning ticket was W6ABM. He receives a \$98 Gift Certificate at HRO. The next "Blue" Drawing will begin in July and take place at the Christmas meeting. "Blue" tickets in lots of four are \$1 from Julie KD7GQW.

The Certificate is to be presented at the July club meeting.

## CLASSIFIED

### HP Deskjet 350CBI Mobile inkjet printer

- Rechargeable Battery
- Infrared Adapter

NEW - IN BOX

\$ 150.00

Al Berg, W7SIC  
503.816.7089  
W7sic@pocketmail.com

The 220 Meter Handheld is sold. Jim Schaeffer KB7ADH says our classified notice was a key factor.

Your Ad goes here! Send it to w7otv@yahoo.com or to the club post office box.

This space provided as a service to OTVARC members. Your ad can run in *The Oscillator*. Contact the editor at W6ABM@arrl.net or 503-681-2345.

## EXAM News

Our next TEST DATE for Amateur Radio Exams will be Saturday, August 3rd at Ronler Acres Fire Station, 1:00 pm. Reimbursement amount for 2002 is \$10.00 per exam session.

Contact Carl, WS7L, 503-629-5796 or ws7l@arrl.net, to register. For other opportunities, send an email request to W7OTV@yahoo.com.

## FIFTH WEDNESDAY

Awards for the May 29 Fifth Wednesday Contest will be awarded at the July 10th meeting. How did you do?

Since most of the club was involved in preparations for SEAPAC, the winner may be by default. One log has been received.

The Fifth Wednesday Contests help us determine what we can do on FM Simplex on 2 Meters(147.54 MHz), and provide some fun.

The next opportunity for Fifth Wednesday fun is on July 31st at 8:00 PM PDT. Jim Schaeffer, KB7ADH, handles the awards for the club. Get on the air and see what you can do 2 meter simplex. The only remaining contest after July is October 30th.

The Fifth Wednesday Log Sheet is included with this issue of *The Oscillator*.

## OTVARC 5TH WEDNESDAY RADIO CONTEST - July 31, 2002

- 1) Object: To work as many amateur stations as possible in as many different 5-digit ZIP codes as possible, using 147.54 FM simplex.
- 2) Contest Period: 2000 local through 2100 local, Wednesday, July 31, 2002 (8:00 – 9:00 PM PDT).
- 3) Categories:
  - A) Single Operator: One person performs all operating and logging functions.
  - B) Single Operator QRP: Same as (A) with a power limitation of 5 watts.
  - C) Multi-operator: More than one person performing operating and logging functions.
- 4) Exchange: Operating 5-digit ZIP Code and Station Category.
- 5) Scoring:
  - A) QSO points: Count one (1) point for each complete single operator or multi-operator QSO. Count two (2) points for each complete single operator QRP contact.
  - B) Multiplier: The total number of 5-digit ZIP codes worked,
  - C) Total score: Multiply the total number of QSO points by the multiplier.
- 6) Miscellaneous:
  - A) Partial QSOs do not count. Both calls, the full exchange, and acknowledgement must be sent and received.
  - B) While no minimum distance is specified for contacts, equipment should be capable of real communications (ie. able to communicate over at least 1 km.).
  - C) Use of repeaters and telephones to coordinate contacts is not allowed.
  - D) Rovers are not allowed as entries in the contest. Mobile stations can be contacted by stations in the contest. Mobile stations will not have a ZIP code and will not count toward the multiplier count.
  - E) Only one call may be used by any station.
- 7) Reporting:
  - A) Entries must be delivered to the contest organizers at or before the August 14, 2002 OTVARC club meeting. (to: Jim Schaeffer, KB7ADH), or by mail to the Club Post Office Address.
  - B) Entries must be made on log sheets showing time of QSO, Call, Zip Code and Contest Category.
- 8) Awards:
  - A) Certificates will be awarded for the top points winner in each station category.
  - B) Awards will be made at the club meeting September 11, 2002.

### Contest Summary Sheet

Call Used \_\_\_\_\_ Operating ZIP Code \_\_\_\_\_

Other Operators \_\_\_\_\_  
Category: A - Single Op B - Single Op QRP C - Multi-operator

Scoring:	Category A QSO's _____	x 1 = _____
	Category B QSO's _____	x 2 = _____
	Category C QSO's _____	x 1 = _____
	TOTAL QSO Points _____	
	Times Number of Zip Codes x _____	
	TOTAL CLAIMED SCORE _____	

Signed \_\_\_\_\_

Date \_\_\_\_\_

Attach Log Sheets detailing all contacts, including Call, ZIP Code, Category, and Time.

# Club Contact Directory

## OTVARC Executive Board

President	Harold Landers	WAØBRU	waØbru@aol.com	503-646-1546
Vice President	Don Stettler	KK7TN	kk7tn@arrl.net	503-649-6013
Secretary	Everett Curry	W6ABM	w6abm@arrl.net	503-681-2345
Treasurer	Linda Sutton	KC7YTD	kb7pvw@arrl.net	503-246-8879
Trustee	Wes Allen	K7WWG	wes@ispwest.com	503-531-3721
Trustee	Janet Bell	WB7FJC	wb7fjc@arrl.net	503-648-4147
Trustee	Alvin Carlson	KB7VHI	kb7vhi@arrl.net	503-629-5728
Trustee	J.D. Fort	K7JDF	k7jdf@arrl.net	503-259-0269
Trustee	Mel Sutton	KB7PVW	kb7pvw@arrl.net	503-246-8879

## Club Functions

ARRL Coordinator	Greg Milnes	W7OZ	w7oz@arrl.net	503-648-6990
Badges and Jackets	Brendan Van Horn	KD7LAH	kd7lah@arrl.net	503-533-5432
Club License Trustee	Hanford Van Ness	KE7BB	ke7bb@email.msn.com	503-246-7975
Community Service	Randy Stimson	KZ7T	kz7t@arrl.net	503-641-3776
Contest: 5th Wednesday	Jim Schaeffer	KB7ADH	jim.schaeffer@sulzerpumps.com	503-245-2518
Emergency Service	Alvin Carlson	KB7VHI	kb7vhi@arrl.net	503-629-5728
Equipment Loan	J.D. Fort	K7JDF	k7jdf@arrl.net	503-259-0269
Field Day Coordinators	Jack Smithson	KA7HOJ	otvarc2@yahoo.com	503-646-1873
	Harold Landers	WAØBRU	waØbru@aol.com	503-646-1546
Health & Welfare	Julie Landers	KD7GQW	kd7gqw@aol.com	503-646-1546
Historian	Al Berg	W7SIC	w7sic@pocketmail.com	503-816-7098
Internet Home Page	Betty Mickley	N7REX	n7rex@teleport.com	503-642-1284
	Marc Chamberlin	WA7PXW	marcc@easystreet.com	503-357-1869
Mickley Scholarship	Carl Clawson	WS7L	ws7l@arrl.net	503-629-5796
Nominating Committee	Janet Bell	WB7FJC	wb7fjc@arrl.net	503-648-4147
	John Anderson	KA7BRZ	ka7brz@aol.com	503-452-2459
	Claire Johnson	N7CM	n7cm@arrl.net	503-647-0860
Oscillator Editor	Everett Curry Jr.	W6ABM	w6abm@arrl.net	503-681-2345
Repeater Team	Wes Allen	K7WWG	wes@ispwest.com	503-531-3721
	J.D. Fort	K7JDF	k7jdf@arrl.net	503-259-0269
	Harold Landers	WAØBRU	waØbru@aol.com	503-646-1546
SEAPAC	Jim Schaeffer	KB7ADH	jim.schaeffer@sulzerpumps.com	503-245-2518
	Al Berg	W7SIC	w7sic@pocketmail.com	503-816-7098
	Will Sheffield	N7THL	n7thl@arrl.net	503-642-7314
	Linda Sutton	KC7YTD	kb7pvw@arrl.net	503-246-8879
Social/Lunch Bunch	Julie Landers	KD7GQW	kd7gqw@aol.com	503-646-1546
Technician Classes	Janet Bell	WB7FJC	wb7fjc@arrl.net	503-648-4147
	John Anderson	KA7BRZ	ka7brz@arrl.net	503-452-2459
Trailer	Alvin Carlson	KB7VHI	kb7vhi@arrl.net	503-629-5728
	Dee Lynch	K7JRB	deek7jrb@arrl.net	541-745-1025
VE Coordinator	Carl Clawson	WS7L	ws7l@arrl.net	503-629-5796

## Interest Contacts

Project Night	Alan Chinnock	KB7POR	kb7por@aol.com	503-636-2237
QRP	Carl Blanchard	N7CVB	n7cvb@arrl.net	503-620-2581
RFI & TVI	Dale Mosby	K7FW	dale@sequent.com	503-640-0217
Satellites	Everett Curry Jr.	W6ABM	w6abm@arrl.net	503-681-2345
Tower Ordinances	Greg Milnes	W7OZ	w7oz@arrl.net	503-648-6990
Travelers	Betty Mickley	N7REX	n7rex@teleport.com	503-642-1284
VHF/UHF	Arnold Jensen	W7DSA	n7yag@columbia-center.org	503-543-3713

## Birthdays for July:

Please join in wishing these folks a "Happy Birthday" in July:  
**2:** Betty N7REX; Jim, KB7ADH; **8:** Shannon, N7APE; **10:**  
 Dewey KD7MRT; **12:** Russ, W7LXR; **13:** Chuck, K7NWM; **14:**  
 John, KA7BRZ; Dee, K7JRB; Eric, W7OSN; **15:** Robert,  
 KC7PL; **25:** Marc, WA7PXW; **27:** Larry K7LJ

Did we miss you? Update your information with the Secretary.

## Hamfests And Conventions

**19 - 21 July 2002**  
**Glacier-Waterton Hamfest**  
 East Glacier Montana  
 Leachg@teleplanet.com  
 403.285.5547

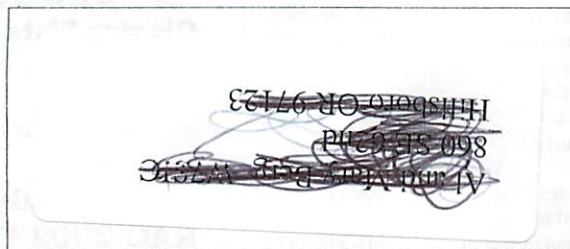
**26 - 28 July 2002**  
**RAC 2002 Convention**  
 Radio Amateurs of Canada  
 Vernon British Columbia  
 Mike Roberts VE7KED  
 www.rac2002.org

**2 - 4 August 2002**  
**PNW DX Convention**  
 Portland Oregon  
 Willamette Valley DX Club  
 Al Rovner K7AR  
 18809 NE 21st St  
 Vancouver WA 98684  
 360-256-7437  
 K7ar@arrl.net

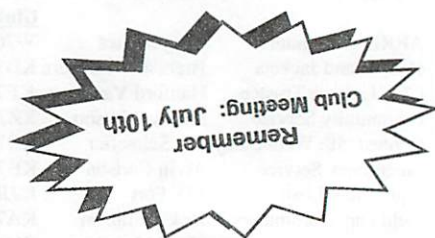
**12 October 2002**  
**Hamfest & Electronics**  
**Swapmeet**  
 Bremerton Washington  
 North Kitsap ARC  
 PO Box 2268  
 Silverdale WA 98383  
 Russell Swank KI7PG  
 360.697.3604  
 Rswank@krl.org  
 www.silverlink.net/nkarc

**26 October 2002**  
**Swap-Toberfest**  
 Amateur Radio Emergency  
 Svcs Convention  
 Rickreal Oregon  
 Mid-Valley ARES  
 PO Box 13848  
 Salem OR 97309  
 Dean Davis KL7OR  
 503.540.3270  
 KI7or@arrl.net





email: w7otv@yahoo.com  
Simplex: 147.54 MHz  
Repeater: 440.350 (127.3)  
Repeater: 146.96 MHz  
Web: WWW.OTVARC.ORG



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Post Office Box 5132  
Amateur Radio Club  
Oregon Tualatin Valley

**OTVARC**

## Club Information

**Purpose:** The Oregon Tualatin Valley Amateur Radio Club, a Not-for-profit corporation, wants to be instrumental in helping the prospective and established Amateur to become a proficient communicator in the Amateur Radio Service.

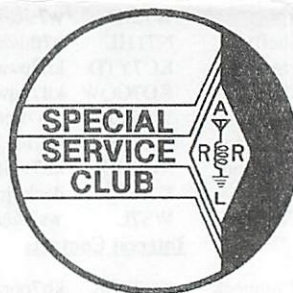
Our intent is to promote the advancement of Amateur Radio Service through these five objectives:

1. Education & Training of new and licensed Amateurs.
2. Public Service during community events & activities.
3. Emergency communications in emergencies & disasters.
4. Hobby enhancement through meetings, nets & contests.
5. Social contact with amateurs & other interested persons.

**Special Service Club:** OTVARC is an ARRL Special Service Club. The ARRL grants us this distinction due to our participation in emergency preparedness exercises, public service events and other service-oriented programs. In addition, continuing educational and training programs are conducted for FCC licenses. OTVARC benefits when you join or renew your membership in the ARRL through the club. Contact the treasurer at any regular meeting.

**Newsletter:** *The Oscillator* is the club newsletter. It is published monthly and mailed on the first of the month. Opinions, views, and recommendations of its contributors are not necessarily those of the club, its officers, advertisers or the editorial staff. Editor's E-mail: ecurry@onemain.com. The August 2002 *OSCILLATOR* deadline is Tuesday, July 23rd.

**Internet Home Page:** [WWW.OTVARC.ORG](http://WWW.OTVARC.ORG)



**Correspondence:** All correspondence may be sent to **OTVARC, PO Box 5132, Aloha, OR 97006-0132.**

**Meetings:** We have two meetings per month. The General meeting is on the second Wednesday of each month at the Beaverton Elks Lodge. 3500 SW 104th Ave. (1 block north of Canyon Road). Meetings start at 7 PM. If you would like to come early, you can get a nice meal from the Elks for less than \$7.00. The Board meeting is on the fourth Wednesday of each month at Fire Station 67, 13810 SW Farmington Rd., Beaverton, 7:00 pm. Club business is conducted at this meeting. All members are welcome to attend.

**Membership:** OTVARC is open to anyone who is interested in amateur radio. You do not need to be a licensed radio amateur to join. Dues are: Full member, \$10/yr; Associate member (non-licensed), \$10/yr; Family members of full member, \$5/yr; Life memberships available - see the Treasurer. Only full members and life members may vote on club business and serve as club officers. All memberships expire on the last day of the calendar year. If you would like to join during the year, see the club treasurer for a prorated dues schedule.

**How to join:** Mail a Membership application and/or renewal form with your dues to the Club address.